RVP8™ Specifications

Last Updated:May 05, 2005, 11:11 AM (GMT-05:00)

RVP8™ IF Digitizer Module (installed in receiver cabinet) and IF Processing	
IF Inputs	Dual IF signal channels for dual pol or ultra-wide dynamic range applications: 50 Ohm, + 6.5 dBm Transmit burst channel for AFC and digital phase locking: 50 Ohm, + 6.5 dBm
IF Ranges	Selectable: 12-34 MHz, 38-70 MHz
Dynamic Range	85-100 dB depending on matched filter (e.g. 96 dB for 0.5 MHz matched filter). Optional 20 dB ultra wide dynamic range extension using 2nd input channel
A/D Conversion	14 Bits at 72 MHz with jitter <2.5 picosec
AFC Output	Control Voltage - 10V to +10V, nominal ±14 MHz span or 25-bit digital control
IFD Link	Standard CAT 5-E gigabit connection
IF Band Pass Filters	Digital FIR with selectable impulse response and pass band. Built-in filter design software with graphical display
Impulse Response	Up to 80 microseconds (for optional pulse compression)
Range Resolution	Arbitrary bin spacing to within ±1m, minimum of 25 m
Maximum Range	8192* resolution, e.g., 1024 km @ 125-m resolution
Number of range bins	Up to 3096 spaced within an 8192-bit range mask
Phase Stability	Klystron: Better than 0.1 degrees Magnetron: Better than 0.5 degrees (for 1.0 microsecond pulse)
RVP8™ IF and Signal Processing Unit	
Processing Modes	Pulse Pair DFT/ FFT, GMAP™, Random Phase 2nd trip filtering/ recovery Optional: ZDR, RHOHV and KDP in pulse pair mode
Azimuth (Pulse) Averaging	2 to 1024
Corrections	Range normalization (normally $1/R^2$), gaseous attenuation

Velocity De-aliasing	By dual PRF technique in ratios of 2:3, 3:4, or 4:5 for 2X, 3X or 4X de-aliasing
Range De-aliasing	By random phase technique for magnetron. Klystron can have optimized phase coding controlled by RVP8/Tx™
Clutter Filters	Fixed or automatic adaptive width GMAP™ filtering to > 60 dB clutter cancellation
Outputs	dBZ: 8 or 16 bits; V: 8 or 16 bits; W: 8 or 16 bits; I & Q: 16 bits; FFT:16 bits Optional Polarization parameters 8 or 16 bits
Performance Options	Dual SMP Pentium processors easily upgradeable as faster processors become available Gigabit networking for multiple processor expansion
Host Interface	10/100/1000T Ethernet
Configuration Interface	Using optional keyboard, mouse, monitor or via network workstation
Physical and Environment	
Packaging	IF Digitizer Module: 30 x 109 x 236 mm mounted in receiver cabinet RVP8™ Main Chassis: 4U rackmount chassis with >40 GB Disk, DVD+RW. Other PC configurations available
Input Power	100-240 VAC 47-63 Hz
Power Consumption	IF Digitizer: 24 Watts; RVP8™: 70 Watts
Environmental	0° C to 50° C operating, 0 to 95% (non condensing) R.H.
Reliability	Digitizer, RVP8™:>40,000 Hours MTBF (estimated from RVP7™ field data)